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Brian H. Moeckly

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MERCHANT & GOULD PC

P.O. BOX 2903

MINNEAPOLIS, MN 55402-0903

EXAMINER

WARTALOWICZ, PAUL A

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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte BRIAN H. MOECKLY and KOOKRIN CHAR

Appeal 2011-001849
Application 10/751,091
Technology Center 1700

Before EDWARD C. KIMLIN, CHUNG K. PAK, and RAE LYNN P.
GUEST, *Administrative Patent Judges*.

KIMLIN, *Administrative Patent Judge*.

DECISION ON APPEAL

This is an appeal from the final rejection of claims 65-68 and 71-75.
We have jurisdiction under 35 U.S.C. § 6(b).

Claim 65 is illustrative:

65. A Josephson junction device, comprising:
- a first layer comprising an oxide high-temperature superconductor;
 - a second layer comprising an oxide high-temperature superconductor;
- and

a third layer connecting the first and second layers and comprising a non-superconductor,

the first and third layers being formed from a starting oxide high-temperature superconductor layer of an oxide high-temperature superconductor, the third layer being an ion-modified portion of the starting oxide high-temperature superconductor layer, the first layer being an unmodified portion of the starting oxide high-temperature superconductor layer,

the device having an R_nA value of about 1×10^{-9} to about $3 \times 10^{-7} \Omega\text{-cm}^2$ at 4.2 K.

The Examiner relies upon the following references in the rejection of the appealed claims (Ans. 3):

Hunt (“Hunt ‘383”) 5,945,383 Aug. 31, 1999

B.D. Hunt et al., *All High T_c Edge-Geometry Weak Links Utilizing Y-Ba-Cu-O Barrier Layers*, in 59 (8) Applied Physics Letters 982-984 (1991) (hereafter “Hunt”).

Appellants’ claimed invention is directed to a Josephson junction device comprising first and second layers of an oxide high-temperature superconductor. A third, barrier layer connects the first and second layers and comprises a non-superconductor. The third, barrier layer comprises an ion-modified portion of the first oxide high-temperature superconductor.

Appealed claims 65-68 and 71-75 stand rejected under 35 U.S.C. § 102(b) as anticipated by or, in the alternative, under 35 U.S.C. § 103(a) as being unpatentable over Hunt. The appealed claims also stand rejected under 35 U.S.C. § 102(e) as anticipated by or, in the alternative, under 35 U.S.C. § 103(a) as being unpatentable over Hunt ‘383.

Appellants do not present arguments for any particular claim on appeal. Accordingly, all the appealed claims stand or fall together with claim 65.

We have thoroughly reviewed each of Appellants' arguments for patentability. However, we are in complete agreement with the Examiner that the claimed subject matter is unpatentable over the cited prior art. Accordingly, we will sustain the Examiner's rejection for the reasons expressed in the Answer, and we add the following primarily for emphasis.

There is no dispute that both Hunt and Hunt '383 disclose, like Appellants, a Josephson junction device comprising first and second layers of an oxide high-temperature superconductor and a third barrier layer connecting the first and second layers comprising a non-superconducting oxide. Also, Appellants do not contest the Examiner's factual findings that both references disclose that the Josephson junctions have values for J_c and $R_n A$ that fall within the claimed ranges. Appellants argue, however, that the references do not disclose that the third barrier layer is an ion-modified portion of the first oxide superconductor layer. Appellants and the Examiner agree that the appealed claims are in product-by-process format.

It is Appellants' position that the references cannot anticipate or render obvious the claimed invention because they do not disclose forming the barrier layer by the claimed ion-modification process. Appellants cite *Abbott Labs. vs. Sandoz Inc.*, 566 F.3d 1282 (Fed. Cir. 2009) (en banc) for the proposition that "the scopes of the independent claims, and thus all pending claims, are limited by the above-cited process features" (App. Br. 12, penultimate para.).

Contrary to Appellants' argument that claims must be interpreted and given the same meaning for purposes of both validity and infringement analyses, it is well settled that claims are given their broadest reasonable interpretation during ex parte prosecution before the USPTO, and that the patentability of a product defined in a product-by-process claim is based on the product itself, not by its method of production. As properly stated by the Examiner, if a product disclosed by the prior art reasonably appears to be substantially the same as a claimed product recited in a product-by-process claim, a rejection under § 102 or § 103 is eminently fair. *See In re Fitzgerald*, 619 F.2d 67, 70 (CCPA 1980); *In re Best*, 562 F.2d 1252, 1255 (CCPA 1977). In such cases, the burden is on the applicant to establish a patentable distinction between the claimed product and the product of the prior art.¹

In the present case, we are of the opinion that the Examiner has established sufficient correspondence between the barrier layer of the prior art and the barrier layer defined by the appealed claims to shift the burden to Appellants to establish a difference between the barrier layers. As set forth by the Examiner, the barrier layers of Appellants and the Hunt references are made of the same material, YBCO, and have substantially the same properties, e.g., the prior art values for J_c and $R_n A$ fall directly within the claimed ranges. Also, the non-superconducting barrier layer of Hunt has a close lattice matching with the superconducting layer, and is uniform, like Appellants' barrier layer. Significantly, appealed claim 65 does not specify any particular composition for the first, second, and third layers and

¹ The Court clearly stated in *Abbott Labs.* that “[t]he issue here is only whether such a claim is infringed by products made by processes other than the one claimed”. 566 F.3d at 1293.

Appellants do not assert, let alone present evidence, that the claimed third barrier layer is different in structure or in any other way from the barrier layers of the Hunt references. Appellants only contend that the claimed and prior art products are made by a different process, but this alone is not sufficient to impart patentability on the claimed product.

In conclusion, based on the foregoing, and the reasons well stated by the Examiner, the Examiner's decision rejecting the appealed claims is affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. §1.136(a)(1)(v).

AFFIRMED